

Custom Maps

You can load maps into PDF Maps from the Map Store or from your own source. Maps can be loaded into PDF Maps from any source as long as they are in the following formats:

Supported Formats


- Geospatial PDF (.pdf): A PDF embedded with geographic information. Many applications can create geospatial PDF including [MAPublisher](#) and [Geographic Imager](#).
- GeoPDF (.pdf): A PDF embedded with geographic information. GeoPDF is a proprietary format of TerraGo.
- GeoTIFF (.tif): A TIFF embedded with geospatial information
- JPEG (.zip): A JPEG must be packaged with either a TFW & PRJ or a JGW & WKT within a ZIP file

For our purposes, we will acquire [US Topo Quads](#) in GeoPDF format.

1. In the **Maps** section, tap **+** and then scan the following QR code with the in-app QR code scanner. **Be sure you are connected to WiFi if you wish to download data to your device.** If on Android, use a companion scanner **or** enter the following URL in the **From URL** bar:
 - a. Note the map will download and “process”. PDF Maps rasterizes and tiles maps to more efficiently display maps. If on Android you can change the resolution of processed maps in order to speed up this step.



<https://goo.gl/Bg5mab>




2. Tap the **Edit** button at the top of your Maps List or on Android, hold down on the **WV_Shepherdstown** map.
3. Tap the information icon  to view details of the map file as well as editing the map title. Edit it if you wish.

Location Tools

PDF Maps will locate you when you are within the bounds of a georeferenced map and display your location on the map. PDF Maps uses the embedded GPS chip and the GPS API to retrieve information directly from the device itself. GPS receivers can be used to enhance the accuracy.

Please ensure Location Services are enabled in the device's Settings.




Note: If you regularly rely on your devices in areas with no network coverage it is important to intermittently use location services when you have a connection. The GPS almanac needs updating from time to time and there is the chance this can fall out of date if there are days or weeks without network coverage and GPS disabled.

1. Open the **Shepherdstown** map imported earlier.
2. Tap the Location icon  or 
 - a. The location icon will fill in notifying that you are now in "follow mode". The screen will remain centered on your location until you pan away. Tap again to re-center.
3. Tap the Location icon again to enable the Compass.
4. Hold the device level and rotate it to see the effect. North is always point towards the "top" of the screen. Tapping the location icon disable the compass, tap the compass to reorient.
 - a. PDF Maps uses "True North"
5. Tap the Coordinates Display to access the display format
 - a. PDF Maps displays a variety of Lat/Long formats (both WGS 84 and Map Default), projected units and military grid. Any projected units are based on the projection embedded with the original map file, if the map is not projected these coordinates will not be accurate. Map Default units not in WGS 84 will not display an accurate location as the API uses WGS 84.
6. On iOS you can tap the share icon  to copy the coordinates to your clipboard for use in other tools or apps. This will be added to Android in the near future.

Data Collection



PDF Maps is an ideal data collection tool for many uses. PDF Maps can collect Placemarks, Lines and Tracks. In this case we will examine how it may be used in a conservation scenario.

Importing a Schema/Data

1. When viewing your map, tap the **Map Features** icon  to view existing data on your map.
2. Tap **Import**  or  to import a pre-made schema. Tap **Import Schema** on iOS or check the **Import Schema Only** check box on Android. Import to iOS using the following QR Code. Enter the following link in the **From URL** bar in Android.







<https://goo.gl/ngZKiO>

3. Back in your **Map Features** list you will have a layer called **Bird Watching**. Tap  to view the layer details.
4. Back in the map view, tap **Tools** , then **Plot Photos** to select some appropriate photos from your camera roll.
 - a. You will have different local photos but to follow along you can **Import** the dataset with the following QR or URL.





<https://goo.gl/IS2g3P>

5. In the Map Features list, tap the newly created layer until you see the list of Placemarks and tap **Edit** or long press on Android.
6. **Move**  or  to move them all to the **Bird Watching** layer.
 - a. You can delete the empty layer if you wish
7. Edit the **Bird Watching** layer again.
8. Tap **Species** to view the list of available species, then tap **+** to add "**Carolina Chickadee**" as another pick list value.
 - a. You can now return to the Placemark to add the species to the attribute
9. Tap the **+** icon to add a new attribute called "**Count**" with a **Type** of "**Real**".
10. Set the Layer as the **Active Layer** or the **Current Folder** on Android.
11. Back in the map view, tap the **Placemark** icon  to add a Placemark to the map
12. Tap on the Placemark then the **Info** icon  to view the details.
13. Edit the Placemark by adding a photo, description and attributes.

Measuring

Measuring can be used for planning out a hike or some field work. Both distances and areas can be measured with the option available to save the lines on the map for export.

1. In the map view, tap **Tools**  followed by **Measure**
2. Use the crosshairs to select a location on the map and tap **+** to start your line.
 - a. As you pan you see the line and measurement update.
3. Tap the Measure Display bar to change the units.
4. Tap on the unit the **+** to create your own custom unit, ie. one called "**Running**" with a measurement of **8 mi/h**.
 - a. After saving, your measurement will update with your custom unit.
5. After placing more points, tap  to toggle between lines and areas.
 - a. Areas cannot be saved to the map and there are no custom area units
6. Save the measured line and **Measure** a new line with a different unit.
 - a. After saving the new line, both lines will show the same unit. Saved lines units are set by the current measured unit but can be changed in the measure settings

GPS Tracks

GPS tracking is best tested in the field. To create your own track you would tap **Tools** and then the **GPS Tracks** tool. A pre-made track will be used to demonstrate the basic feature.

1. Tap on **Map Features** and **Import** using the following QR code or URL.



<https://goo.gl/2Jbzmj>



2. Tap on the imported track to view the track summary
3. Tap on the information icon ⓘ to view more statistics
 - a. The track is recorded using the device's GPS API while statistical calculations are made within the app. External GPS receivers can be used to boost the GPS accuracy.
4. Tapping on the graph will visualize the track profile.
5. To use the tool, tap **Tools** 🔧 and then **Record GPS Track**

Collections

Collections are a folder of maps that behave as a single, seamless set of maps allowing users to easily switch between spatially adjacent maps and maps of different scale. Recorded data, like Placemarks and tracks, work across all maps within a Collection.

1. Download the following Collection to your phone using QR code
 - a. There is a known issue importing Collections using a shortened URL. It is being addressed but in the meantime, only the QR code will work for this exercise.



2. Collections can also be made from existing maps by adding a new Folder to your Maps List.
3. Tap ⓘ on the newly created folder and enable the **Collection** setting.
4. Tap on the **Shepherdstown Collection** and select a map to view in the Collection
 - a. The map will open like any other except there is now an Overview map in the top-left corner displaying the orientation of all the maps in the Collection
5. Swipe left and right on the overview map to minimize and expand it.
6. Tap on any square within the overview map to view that map.
7. Return to the Map List and tap **Edit**
8. Select the original **Shepherdstown** map and **Move**  or  to the **Shepherdstown Collection**.
9. View the Collection again and pinch to zoom in and out to swap between maps of different scales.
 - a. The bar on the right shows the current zoom as well as the maximum and minimum zoom of each scale showing you at what zoom level you will switch between maps.

Search

Searching your Maps and Placemarks is currently available on iOS and will be coming the Android very shortly.

Optional: Import the completed data set to your map using the following QR Code or URL:





<https://goo.gl/26HmWH>

1. When in the map list, tap the **Search** bar and begin typing the title of an existing map. ie **"Shepherdstown"**
 - a. Search will auto-complete existing results. Tapping on a resulting map opens that map.
2. Tap on your **Shepherdstown** map and tap the **Search** bar to search for **"Robin"**.
 - a. All matches and partial matches are shown. Tapping a result will focus the map on that Placemark
3. Tap on the **Search** bar again and enter a general term like **"cafe"**
 - a. These results are dependant on OpenStreetMap and require a network connection. The results will be added to your map including any attributes from the OSM database.

Export

You can export all your data collected in different formats. All data can be exported as KML. Tracks and lines can also be exported in GPX format while Placemarks can also be exported in GPX and CSV formats. It can be exported to AirDrop and iTunes on iOS, external storage device on Android as well as Email and Dropbox on both platforms.

1. Tap on **Map Features**  followed by **Export** 
 - a. The export settings menu allow you to choose a name, location, format and which data you wish to export.
2. Change the destination to each of the options to see how the menu changes.
 - a. **Email** will export the selected data as an attachment
 - b. **Dropbox** will export the selected data to a linked Dropbox
 - c. **iTunes File Sharing** (iOS Only) will export your data to iTunes in if your device is plugged into a computer with iTunes
 - d. **AirDrop** (iOS Only) will export your data to other AirDrop equipped devices. You have the option to share custom maps as well.
 - e. **Device Storage** (Android Only) will export your data to an SD Card
3. Select **CSV** from the list of formats:
 - a. Tracks can only be exported in **.KML** or **.GPX**
4. Select **Custom** from the data list and select the Placemarks from the **Bird Watching** layer
 - a. Experiment with multiple settings if you wish.
5. Open the resulting **.CSV** to see the results.